REMARKS/ARGUMENTS

Request for Continued Examination

Applicant respectfully requests continued examination of the above-indicated application as per 37 CFR 1.114.

Response to Claim Rejections

Claims 1-4 and 6, 8-13 and 15 are rejected under 35 U.S.C. 102 (b) as being anticipated by or, in the alternative, under 35 U.S.C. 103 (a) as obvious over Okazaki et al. (6,424,606).

Response:

Applicant has amended independent claims 1 and 9 to include the description that the left region corresponds to an area of the inner diameter of the track and the right region corresponds to the outer diameter of the track. No new matter is entered by the amendments. As claimed, applicant asserts that whether the regions are up and down, or left and right, is not simply a matter of how the photoelectric sensor is viewed.

The optical signal that is reflected from the optical disc and received by the pick-up

head is shown reflected on the photoelectric sensor 24 in Fig. 1 of the present invention. The photoelectric sensor 24 is divided into regions A, B, C, and D. In currently amended claim 1, the regions A, B, C, and D "structurally distinguish the sensor", contrary to the Examiner's comments for the previously present claim 1. The regions of the photoelectric sensor 24 are part of a larger device in which a disc is spinning in a specified direction. The location of the regions must be considered with respect to the spinning direction of the disc, and therefore with respect to the spinning direction of the tracks disposed on said disc. The regions are distinguishable from one another with respect to the direction of the track.

Applicant further asserts that currently amended claims 1 and 9 are not anticipated by Okazaki et al. because photodiodes 115 and 116 corresponding to Okazaki's E and F tracking error signal in Fig. 3 are positioned in a vertical manner with respect to track T3, as shown in Figs. 3 and 4 of Ohta, who also teaches a vertical orientation. Consider if the disc were rotated 90 degrees, as suggested by the Examiner's "portrait mode" versus "landscape mode." Also, consider that the photodiodes and photosensors are not rotated. Finally, consider an example utilizing actual values: region A = 5, B = 2, C = 7 and D = 8, prior to a rotation and according to Applicant's left and right region claim, (A + D) – (B + C) results in the value of 4. After the disc is rotated 90 degrees and with the photosensors not being rotated, the regions now have the following values: A = 2, B = 7, C = 8 and D = 5. The new result of comparing a left half region with a right half region using (A + D) – (B + C) results in the value of –8. The Applicant maintains that the regions with respect to the track of the disc are distinguishable and their values are significant based on the photosensors orientation with respect to the direction of the spinning of the disc and therefore the track. Claim 1 has been amended to indicate the sensor 24 maintains a particular physical orientation within the larger device by the inclusion of the statement: "the left region corresponding to an area of the inner diameter of the track and the right region corresponding to the outer diameter of the track" that is fully supported in the specification.

In the telephone interview of 11 Aug 2005, the Examiner indicated that there appears to be an obvious error in Fig.6 of Okazaki et al. in that the tracks 140 run vertically instead of horizontally. However, applicant asserts there is no error in Fig.6 of Okazaki et al. In particular, the orientation of the tracks in Fig.6 is similar and supported by Supino et al. in United States Patent 5,982,721. As shown in Fig. 1E by Supino, et al., the E and F signals are oriented such that E is adjacent to photosensors A, D and F is adjacent to photosensors B, C. Given this adjacency configuration Supino et al. teach that E and F are located in a vertical fashion (i.e., above/below or before/after) about the quadrant photosensor and with respect to the track on the disc. Fig. 1E further illustrates that the E and F tracking photodiodes are positioned on a vertical plane along with the quadrant photosensor and all three (E, F, and A, B, C, D) being with respect to the track on the disc forming said vertical plane. This is in contrast to currently amended claims 1 and 9, which have been further amended to clearly describe the areas of the track with the addition of the statement: "on a track...the track having an inner diameter and an outer diameter that define the width of the track and said diameters located on the disc with respect to the center of the disc."

For at least the above reasons, applicant asserts currently amended claims 1 and 9 are not anticipated by or, in the alternative, under 35 U.S.C. 103 (a) as being obvious over Okazaki et al. Reconsideration of claims 1 and 9 is respectfully requested.

Claims 7 and 14 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Okazaki et al.

Response:

Applicants believe that the elimination of the TE signal from the vibration detect signal would not have been obvious to those skilled in the art given the teachings of Okazaki et al. at the time the invention was made. Osakaki et al. repeatedly reach that it is advantageous to subtract the TE signal from (A + D) – (B + C). Osakaki et al. disclose in column 12, lines 30-33 that TE is advantageously subtracted from (A + D) – (B + C).

Concerning Examiner's statement regarding if the applicant intends left and right to be defined relative to a track - "Compare tracking detector 330 in Fig. 3 of Okazaki et al. with tracking error circuit 119 in Fig. 4 of Ohta (5,909,414), and note the orientation of the photosensors 115 and 116 in Fig. 4 of Ohta with respect to track T3 in Fig. 3 of Ohta."

Response:

The tracking detector 330 of Okazaki and the photosensors 115 and 116 in Fig. 4 of Ohta are not relevant to Applicant's application. These elements exclusively utilize Okazaki's photodiodes E and F shown in Fig. 2 and Ohta's photosensors 115 and 116 shown in Fig. 4 and are relevant only to tracking error. Applicant purposely excludes the TE signal (i.e., Okazaki's photodiodes E and F shown in Fig. 2 and Ohta's photosensors 115 and 116 shown in Fig. 4).

In addition, Ohta does not label the 4-split sensor 114 of Fig. 4 presumably because it is not directly related to his invention as stated in col. 3, lines 13 through 18. Without any labeling identification of the quadrants of the 4-split sensor 114 it is impossible to determine

how regions A, B, C, or D are oriented with respect to the track or anything else in any of Ohta's figures.

Finally, Applicants again refer to US patent 5,982,721, Supino, et al., to further support Applicant's assertion that prior art 4-split photosensors/photodetectors such as that shown as element 6 in Fig. 1A of Supino, et al., tend to designate regions A and D to be in a left region (i.e., inner diameter) of a track while regions B and C are in a right region (i.e., outer diameter) of a track when the equation (A+C) – (B+D) is utilized. Fig. 1A clearly shows the photosensor labeled such that, given equation (A+C) – (B+D) as the equation used in conjunction with Fig. 1A, that A and D are left regions, and B and C are right regions. Applicant thereby asserts that defining "left" and "right" relative to the track is not anticipated by or obvious given the prior art.

New Claim

New claim 16 is entered to further to further highlight the uniqueness and novelties associated with the present invention. No new matter is entered. Consideration of new claim 16 is respectfully requested.

Sincerely yours,

Winston Hsu Date: Oct. 03, 2005

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Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)